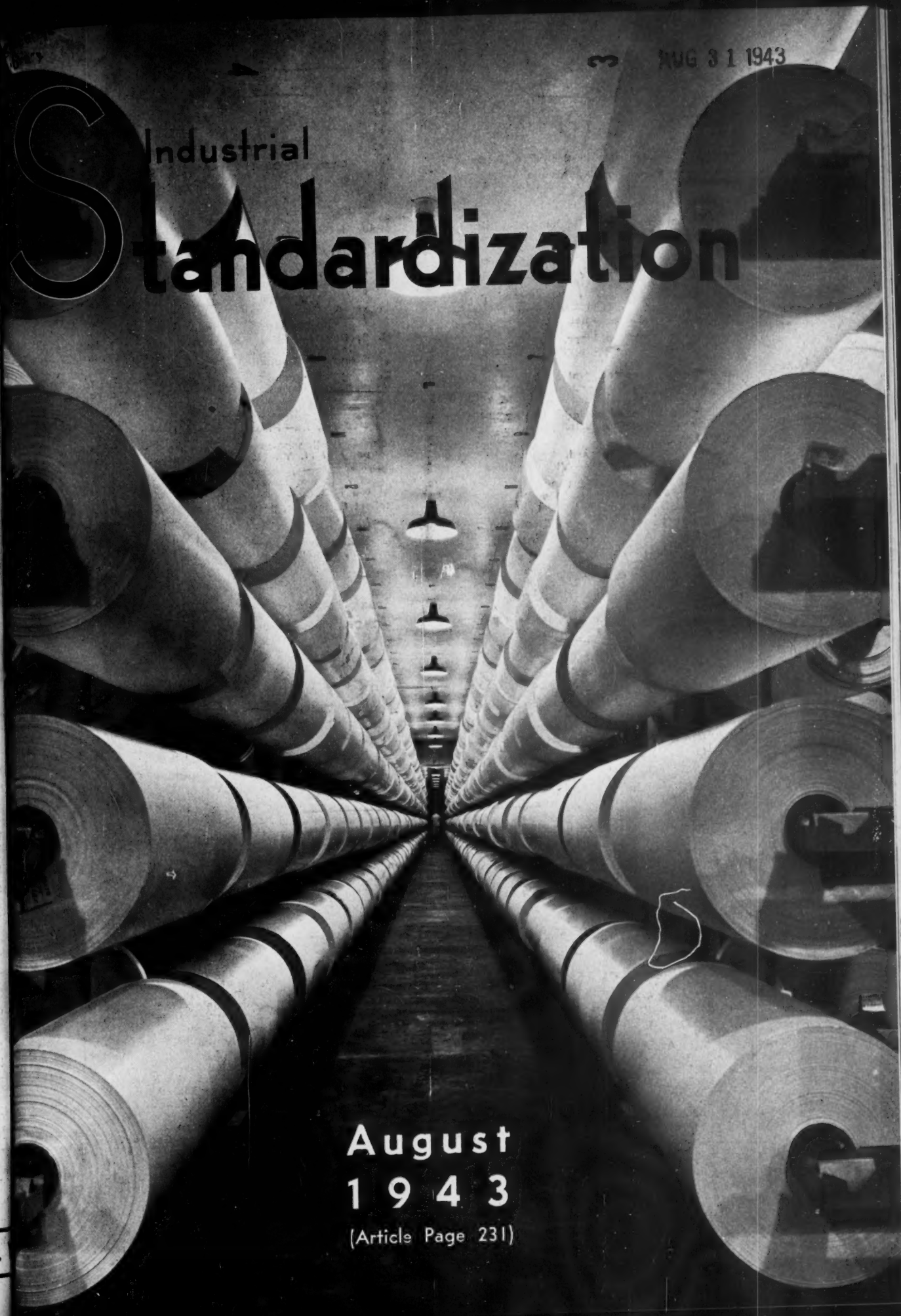
Industrial Standardization



August
1943

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RUTH E. MASON, Editor

Our Front Cover: Rolls of unsensitized film in the Eastman Kodak storeroom.

This Issue

ASA

Reg. in U.S. Pat. Off.

Standardization is dynamic, not static. It means not to stand still, but to move forward together.

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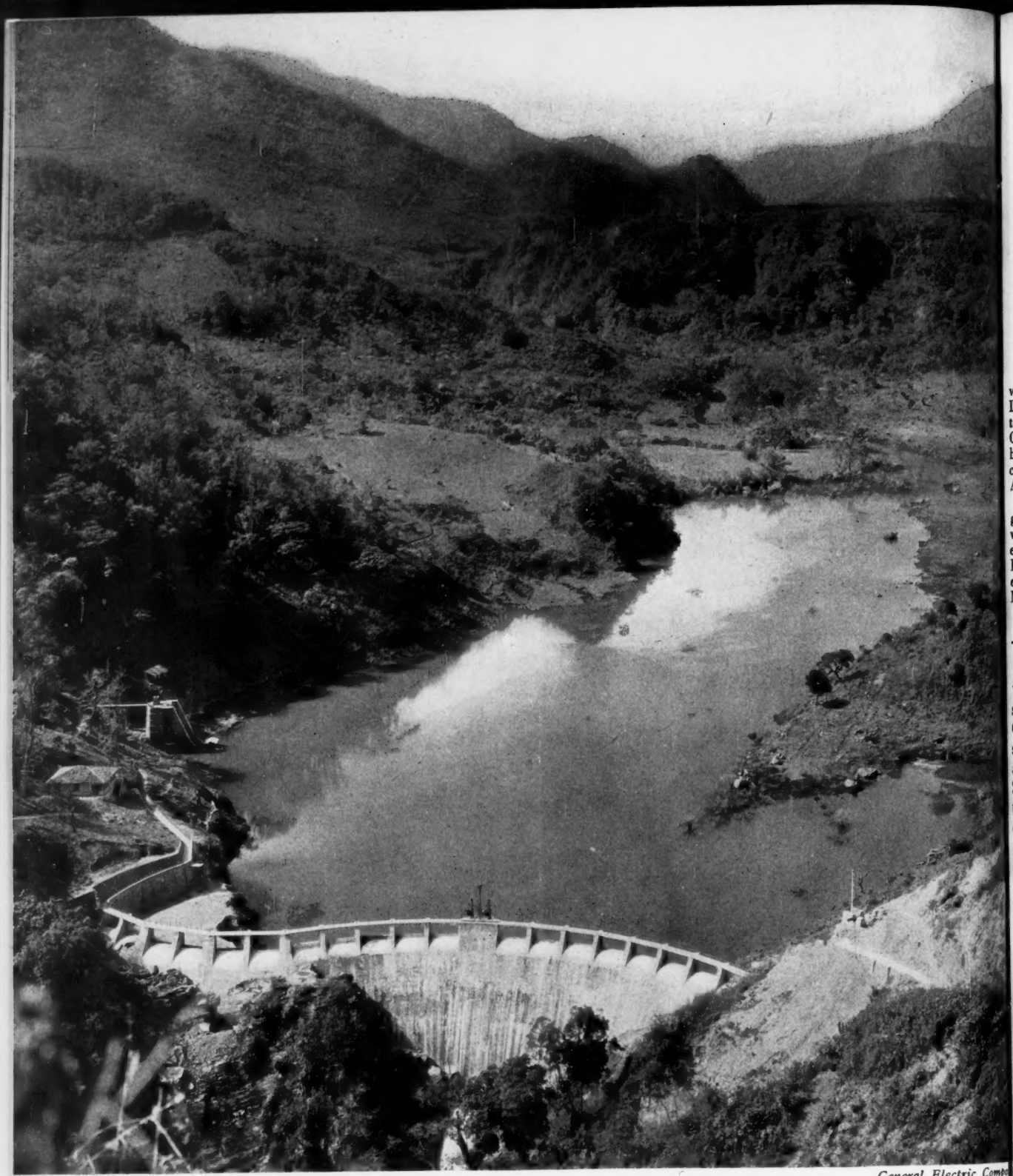


General Electric Compa

The Tuxpango Dam in Mexico is an important source of hydroelectric power.

Standards in Latin America

With Particular Reference to Electrical Standards[1]

by Alberto Magno-Rodrigues

Inter-American Department, American Standards Association

[The first part of Mr. Magno-Rodrigues' address described the work of the International Electrotechnical Commission and the International Commission on Illumination, especially in relation to the development of electrical standards for use in South and Central America. It also emphasized the important role played by the United States National Committee of the IEC in the discussions which led to organization of a Committee on Inter-American Cooperation by the American Standards Association.

When the initial funds required for this inter-American program had been assured, Mr. Magno-Rodrigues explained, ASA was able to secure the services of a well known American civil engineer, Cyrus T. Brady, Jr., living in Buenos Aires, as ASA Field Representative in Latin America. It was also able to establish an Inter-American Department in the ASA offices in New York.

Mr. Brady has now organized liaison representation between the American Standards Association and several of the Latin American countries, it was explained. In Brazil, M. E. Souza is acting as liaison representative; and in Mexico, K. K. Boynton, and a special committee, are performing this function. (See INDUSTRIAL STANDARDIZATION, May 1943, page 159.)

From reports received from ASA's representatives in the field, Mr. Magno-Rodrigues has been able to prepare an analysis of the standards work now going forward in Latin-American countries. Although it was prepared for a meeting of electrical engineers and therefore emphasizes the work on electrical standards, this analysis gives a more complete picture of the standards movement in these nations than has been available up to this time. This section of the address has been selected, therefore, for publication.—EDITOR.]

IN the interest of the Pan American movement, the United States is being called upon to place its vast technical experience freely at the disposal of its southern neighbors. Everywhere south of the Rio Grande, friendly interest in American standards is being shown. Whether in the form of visits by technicians and industrialists from the other Americas to the United States, and vice-versa; in the presentation of American technical publications; or through constructive criticism of Latin-American proposed standards, information about American practices and methods is gladly received.

Already actively engaged upon standardization activities are Argentina, Brazil, Mexico, and Uruguay. Chile is also displaying considerable interest in the movement and, before reviewing what has been or is being done in each of these countries, we might mention that Peru is another nation which may shortly set up a standards institute. In the other southern countries, no movement towards standardization is apparent and only in Cuba and Colombia is such movement likely to develop in the near future.

Argentina

Argentina was the first Latin-American nation to establish a standardizing body. It is called Instituto Argentino de Racionalización de Materiales, or IRAM, and is headed by M. A. Ceriale.

Argentine interest in standards is largely in connection with imported materials.

It is worth noting that the Germans have always been very active in presenting full sets of their standards, largely in translation, to the Argentine standards association, and in joining the local organization. They did so before the war, and, since the war has stopped their usual activities, they now have many competent and energetic engineers available for this work.

Great Britain also has been taking the movement very seriously. The British have prepared many handsome books, pamphlets, and other publications in Spanish, and have a British Standards Committee in Buenos Aires, which draws on the British Railways functioning in Argentina for engineering assistance.

The American Standards Association has been maintaining excellent relations with IRAM in the last few years, but the fact is that American cooperation has only begun now to approach in a very mild form what the Europeans have been accomplishing for some years. ASA and IRAM are now interchanging all of their standards and some draft standards.

IRAM recently drafted a proposed standard for converting units to the Meter-Kilogram-Second system. In this country, the MKS system has received little attention outside of electrical organizations, and it is interesting that the Argentine national standards body has gone to the trouble of compiling an extensive list of factors for converting quantities from other systems so that MKS might be used in other fields. This draft standard, and several others dealing with non-electrical matters, have been received by ASA for criticism and comment. The comments made by the experts whom we consult in each case are immediately conveyed to the Argentine body.

When IRAM approves a draft standard, it is referred to an official body called the National Commission for Standardizing Materials, and when this Commission is satisfied with the document, it issues a provisional Argentine standard for public discussion over a period of one year, after which it becomes a national standard.

Draft standards in the electrical field[2] which have

[1] Abstracted from a paper prepared for the National Technical Meeting of the American Institute of Electrical Engineers at Cleveland, Ohio, June 21-25, 1943.

[2] For information about work going forward in fields other than electrical, ASA Members are invited to write to the American Standards Association.

The filament-mounting section of the Montevideo, Uruguay, branch of the General Electric lamp factory.

been approved by IRAM but not yet sanctioned by the government commission, deal with the following subjects: Electrical voltages and frequencies; electrotechnical notations; circular bare copper conductors for overhead lines; conduit and fittings for electrical installations; receptacles, plugs, and sockets for installations in buildings; enclosed switches for installations in buildings; tungsten filament lamps for general use; graphic electrotechnical symbols for lighting, heating, and power installations; and covered copper conductors for overhead lines exposed to weather.

Among the standards already approved by the Government Commission are those covering copper for electrical conductors, and standard current ratings.

The Electrotechnical Committee of IRAM has organized the following subcommittees, each of which has one or more new standards under study: Nomenclature and symbols; conductors; insulation; rotating machinery; transformers; measuring apparatus; electrochemical sources (batteries); low-voltage installations; lighting and domestic appliances.

There is also a Telecommunications Committee which has organized the following subcommittees; Units; measures; nomenclature and symbols; construction elements in radio; construction elements in telegraphy and telephony; electronic tubes; radio receivers; electro-acoustic apparatus; radio transmitters; interference in radio reception; electro-medical apparatus; and television. These subcommittees are studying some 30 new standards.

The Asociación Argentina de Electrotécnicos (Argentine Electrotechnical Association) was organized in 1913 and from the very beginning has been interested in the formulation of standards. Its first work was the preparation of a set of regulations for electrical installations in buildings covering, in a general way but more briefly, the field of the National Electrical Code in the United States. This was published about 1920 and has been revised a couple of times since then. These regulations have been adopted as legal requirements by certain Argentine cities and have served quite widely as the basis for specifications and contracts. The Association also brought out some years ago a set of regulations for watt-hour meters which Buenos Aires and other Argentine cities have adopted. It has also issued standards of practice for mitigating the damaging effects of stray currents and standards for overhead line crossings which have proved useful.

The Comité Electrotécnico Argentino (Argentine Electrotechnical Committee), affiliated with the International Electrotechnical Commission, has translated quite a number of international standards into Spanish. The work of the IEC, through this committee, has had an important influence on the work of both the Argentine Electrotechnical Association (with which it maintains very close relations) and of IRAM, in the preparation of their respective standards.

Brazil

In Brazil, standardizing work is handled by the Associação Brasileira de Normas Técnicas (Brazilian Technical Standards Association) or ABNT,[3] with headquarters in Rio de Janeiro. IPT, or Instituto de Pesquizas Tecnológicas (Institute of Technological Research) performs in São Paulo, in a limited way, the functions of the National Bureau of Standards in the United States. Both organizations are headed at present by the same man, a prominent Brazilian engineer, Dr. Ary F. Torres. The Secretary of ABNT in Rio is Dr. Paulo Sá. ASA is also in close contact with these two organizations, exchanges standards with ABNT, and maintains correspondence with both the Rio Association and the São Paulo Institute. Closer cooperation between Brazil and the USA in the standardization field is definitely the order of the day.

Because of Brazil's enormous natural resources and possibilities for great industrial development, the approach to standards is different from that of Argentina. In Brazil, standards are set not only for imported materials but also mainly for local manufacture. Here the Europeans have also developed tremendous activity and, while they are temporarily less active because of the war, if America wants to do at least as much, ASA should be placed in a position to expand its action properly.

The electrical standards approved in Brazil, so far, are the electric wiring code for light, heat, and general purpose power and a standard covering electric incandescent lamps for general lighting purposes. Attempts to establish rules and regulations governing electrical installations have been made by a number of city governments in the form of local ordinances, but all of them are of a local or regional character and of limited scope. Moreover, the present code does not have the force of law except as it is backed up by government decree. The ground work, however, has now been laid to facilitate this official step and at the same time make provision to allow for any special local conditions that might need to be taken into consideration.

This particular Brazilian standard on incandescent

[3] See article "How Standards Are Developed in Brazil" by M. E. Souza, Industrial Standardization, May, 1943, page 161.

lamps is interesting because it exemplifies the slow process by which standards are arrived at, or at least have been arrived at up to now. The General Electric lamp factory in Brazil has been in continuous operation for more than 20 years, and follows United States manufacturing specifications. The government purchasing commissions were of the opinion that local standards should be set up, because lamps of oriental origin were largely of substandard quality. The situation brought about by the war has made the need for quality specifications much less urgent, since all Japanese imports have ceased. Certain government departments, however, have started to write in their calls for bids a specific reference to the lamp standards. In Brazil, as elsewhere, war conditions have tended to make it necessary in some cases to set aside temporarily the regular standards, since it is not always possible to obtain the normal supply and grade of materials involved.

In process of development, or of being considered for inclusion in the program of the Brazilian standardizing body, are the following: Bare copper wires and cables, hard, medium-hard, and soft; weatherproof wires and cables; rubber (30%) covered wires and cables for general purposes; impregnated paper-covered wires and cables, including steel strip and lead-covered; electrical storage batteries; porcelain insulators; electric conduit and fittings; and definitions of electrical terms.

Many electrical products are being manufactured in Brazil, and others are being added almost daily to the list.

M. E. Souza, ASA's representative in Rio de Janeiro, emphasizes the fact that the methods followed by ABNT in Brazil are very much like those which long experience in other standardizing bodies, such as ASA, has proved most likely to succeed. They are based upon the fundamental principle that the groups substantially concerned with any standard, whether it be nomenclature, uniformity of dimensions, quality of materials or products, methods of test, or any other classification, are given the opportunity to take part in the development of the standard.

Mexico

In January of the current year, the former Mexican Department of Weights and Measures was replaced by a Department of National Standards, called Dirección General de Normas Nacionales, or DGNN. It is headed by Engineers Ignacio Aguerrebere, Director, Manuel Torres Torija, and Manuel Teja Zabre. It has quite an elaborate program and the engineers in charge have expressed their desire to consult with ASA about their standards as the work progresses, and have asked for information on technical matters.

Electrical standards have been based in the past mainly on American practices, although the Germans have also been consulted and their standards used. The greatest single obstacle to the further extension of American Standards in Mexico, in normal times, whether in the field of electricity or of other engineering branches, is perhaps the fact that Mexico uses the metric system. This is, of course, a point which has to be reckoned with in trade relations between the United States and any Latin-American country, and which the Germans have never been slow in turning to their own advantage.

It should be pointed out in connection with the metric system, that American difficulties are being somewhat minimized nowadays. This is due, *not* to the fact that the War has closed to these countries all other sources of supply and only those of the USA are available to them—for these are only temporary circumstances—but because present methods of mass production are reducing the importance of the units of measure in checking the size of a product in comparison with the use of gages which are more and more replacing the inspector's scale and micrometer. Decimal fractions of the inch are also being used more extensively in this country and the acceptance of the 25.4 ratio for the conversion of the inch to millimeters is also helping to pave the way for better understanding between the groups of nations who use different systems of weights and measures.

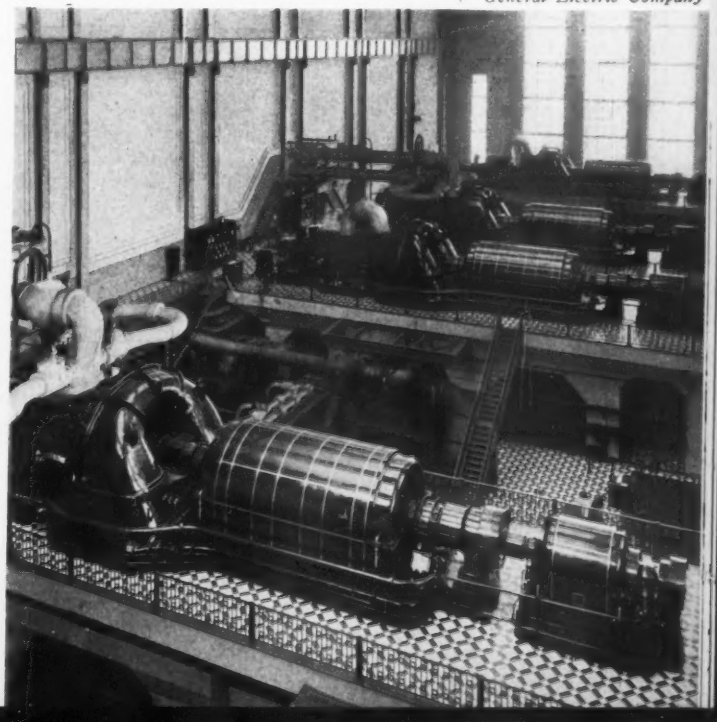
We should not forget that the metric system is legal in the United States, having been authorized by Congress as far back as 1866.

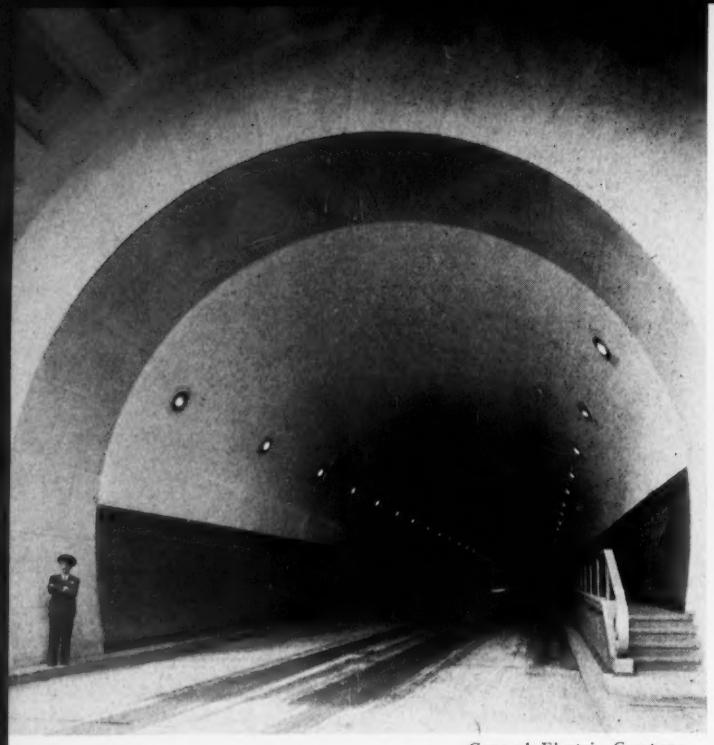
The latest information on the subject of Mexican Electrical Standards was supplied by E. S. Morales, an engineer employed by an American company in Mexico City. He reports that, in 1926, the Department of Industry and Commerce of Mexico prepared a National Electrical Code based on the equivalent document issued as an American Standard. Some five years ago, the Bureau of Electrical Control of the Department of National Economy formed a committee to revise the Mexican National Electrical Code made in 1926, but this work was never finished.

About a year ago, the General Bureau of Electricity, in the Department of National Economy, began to make a study of electrical standards. This was due to the fact that restrictions to the importation of electrical materials from the United States, brought about by present war conditions, caused several factories to be established in Mexico for the manufacture of substitute materials, such as rubber-covered, leaded weatherproof wires; knife switches; lamp holders; porcelain and glass insulators; plug fuses; etc. American Standards were used as a basis for judging the quality of

A turbine house of "CADE" (the Argentine Electricity Company) in Buenos Aires.

General Electric Company





General Electric Company

View of the "9th of July" Tunnel in São Paulo, showing the modern lighting projectors.

the products manufactured in Mexico and for the approval or rejection of locally manufactured products.

Just a few months ago, when the DGNN was organized, a section dealing with electrical materials was created within the new Bureau. This section is charged with the formulation of electrical standards for use in Mexico and it is understood that the American pattern will be followed as a basis. Mr. Morales' company has offered this government office Spanish translations of such new electrical standards as may be approved by the American Standards Association in the future.

The 1926 Mexican Electrical Code is still supposed to be in force. Yet, at present, neither imported nor locally manufactured electrical products can be sold in the market if they are not first approved by DGNN, so that good quality can be assured.

Mr. Morales, in his report, states that the cooperation of the ASA is fully appreciated by the Mexican Government.

Uruguay

Uruguay organized the Instituto Uruguayo de Normas Técnicas (UNIT), which is busy setting up quite a large number of standards and is exchanging its publications with ASA. The president of UNIT is Carlos E. Berta, with whom ASA has been corresponding, and the secretary is Julio Ricaldoni. Relations between the Uruguayan and USA standards bodies are most friendly, and ASA has had occasion to supply technical information on various matters. The proximity of Uruguay to Argentina makes it possible for Mr. Brady to pay frequent visits to Montevideo. Nevertheless, an assistant has been appointed to help him in the work of maintaining contacts both with the local standards institute and the South American Committee for Technical Standards, whose head offices are located in the Uruguayan capital. This assistant is C. L. Van Domselaar, manager of the local American Chamber of Commerce.

Inter-American cooperation, of increasing importance to American industry, was the theme of several sessions at the National Technical Meeting of the American Institute of Electrical Engineers June 21-25. The question "How can the Institute render greater service to its Latin-American members?" was the subject of the afternoon conference June 23. At this session Alberto Magno-Rodrigues of the ASA staff presented a paper from which the excerpts reproduced here have been selected. At the same session L. F. Adams, General Electric Company, spoke on "International Electrical Standards", and an informal talk was given by Major Carlos Berenhauser, Jr. of the National Steel Company of Brazil.

The general meeting in the morning of June 23 was also devoted to the subject of inter-American cooperation. At this session, Major-General J. L. Schley of the Office of the Coordinator of Inter-American Affairs, spoke on "Inter-American Affairs of Interest to the Engineer," and R. E. Zimmerman, president, American Standards Association, spoke on "Inter-American Cooperation in the Development of Standards."

Mr. Zimmerman said: "Good neighbor policy stretches over periods of both war and peace, and provides for the exchange of benefits in all fields of endeavor. It is our hope that what we have learned in the development and use of standards here in the United States may qualify as one of the items of benefit in the series of exchanges which will mark our living and working together with these sister republics.

"Exports to the Americas, and imports from them, are bound to have an important relationship to standards and standardization, if commercial intercourse between and among the republics is to be facilitated. In the United States, producers of goods for export are deeply interested in markets throughout this hemisphere, as well as elsewhere. They have something to offer, many things needed in Central and South America, and expect acceptance only on the basis of price, quality, and service. On the other hand, it would be strange if the other American republics did not wish to exploit their products in the markets of the United States.

"In furtherance of both of these aims, it is to the interest of the parties concerned that the standards adopted for application to the articles of commerce be appropriate in every respect."

The establishment of the Uruguayan body was the outcome of this South American Committee's endeavors to stimulate the organization of strong national standardizing bodies in South America and eventually to coordinate in some form or other all of South America's standardizing activities. The committee aims at the

formulation of a strong continental bloc whose work is designed to have considerable influence in international relations. This committee was established at the Conference of the South American Union of Engineering Societies held in Rio de Janeiro in 1941.

Chile

In Chile, the First Engineering Congress adopted a resolution in November 1942 calling for the establishment of a standardizing institute, and it is understood that, with or without government support, the organization is going to be set up in the near future. In the meantime, ASA is in contact with the engineering societies and government departments concerned. The Dirección General de Servicios Eléctricos was established some years back by the Government, and they adopted a code of specifications and a testing code, based mainly on European standards. Due to the German practice, the 380-volt 50-cycle current was standardized in Chile, and this has made it somewhat difficult to use American manufactured electrical material.

In referring to the cooperation of American institutions in the standardization activities of the southern republics, Mr. Magno-Rodrigues called attention to the fact that the American Society for Testing Materials has translated a number of its standards into Spanish and Portuguese and that it has been exchanging publications for many years with more than 30 technical societies and groups in Latin America.

Through cooperation between the National Bureau of Standards and the Bureau of Foreign and Domestic Commerce, he added, some commercial standards or recommended practices have been translated and published.

Mr. Magno-Rodrigues also referred to the activities of the Inter-American Safety Council, which in the last few years has been cooperating through national councils established in various Central and South American countries in the prevention of accidents. Its work is based on standard safety methods and a number of American Standard Safety Codes have been translated into Spanish.

A subcommittee of the Advisory Committee on Inter-American Cooperation of the ASA is functioning under the chairmanship of John W. White, of the Westinghouse Electric International Company, for the purpose of focusing the attention of American industry upon the Latin-American activities of the ASA, so that adequate funds to support and assure the continuity of its program may be available. Mr. White is lending valuable assistance to the cause of standardization, as he did also when he accepted responsibility for promoting the translation of the National Electrical Code into Spanish. This translation has been successfully accomplished and the code will be distributed in thousands of copies throughout the nations of the South.

Members of the subcommittee under the chairmanship of Mr. White are: H. Greenwood, U. S. Steel Export Company; and J. T. Wilson, Export Managers Club and International Business Machines Corporation.

Companies which are interested in the work of the ASA Advisory Committee on Inter-American Cooperation are invited to write Mr. John W. White, Room 2223, 40 Wall Street, New York 5, N. Y.

Emergency Provisions Available For National Electrical Code

A Supplement to the National Electrical Code, containing 46 Interim Amendments and 57 Interpretations, has been prepared by an Emergency Committee and published by the National Board of Fire Underwriters. The Emergency Committee is made up of eleven members, representing the major groups which are members of the sectional committee in charge of the Code. This Emergency Committee was empowered by the sectional committee to take any actions warranted by the war emergency, such actions to remain in effect until the next meeting of the sectional committee.

All of the Interim Amendments prepared by the Emergency Committee have had to do with the war emergency, and a large proportion of them represent direct requests from the War Production Board, Alvah Small, chairman of the committee on the National Electrical Code, announces.

Copies of the National Electrical Code (C1-1940), prepared under the sponsorship of the National Fire Protection Association and approved by the American Standards Association, are available at five cents. The Supplement, which has not been approved by the American Standards Association, is available from the ASA without charge. Copies are also available from the National Board of Fire Underwriters, 85 John Street, New York.

ASA Consumer Goods Committee Plans Enlarged Program

The ASA Advisory Committee on Ultimate Consumer Goods has appointed a Program Committee and a Nominating Committee to work out an enlarged and more vigorous program for the development of standards for consumer goods. "There has never been a time when the need for standardization in the consumer goods field was so evident nor when interest in the subject was so widespread," Irwin D. Wolf, chairman of the Advisory Committee declared in announcing appointment of the subcommittees. "Price regulations and conservation of material have emphasized the present necessity, but equally important is the formulation of future plans," he said.

The function of these two new committees will be two-fold.

(1) To increase the personnel of the ACUCG to include manufacturing groups' representatives;

(2) To block out a long-range program of work on a better organized and systematic basis than the ACUCG has thus far attained.

Max Gertz, representative of the National Retail Dry Goods Association on the ACUCG, is chairman of the Program Committee, and C. W. Dorn, also representative of the NRDGA, is chairman of the Nominating Committee.

Albert W. Whitney

ALBERT W. WHITNEY died July 27, following an operation. He was Chairman of the American Engineering Standards Committee as the American Standards Association was then called, during three critical years—1922 through 1924.

Whitney first became a force in the ASA in 1919 when the organization was trying to get itself started while beset by a swirl of controversies and jurisdictional disputes. Characteristically, he at once got into the thick of the fight, and was one of a half dozen men who carried the burden of working out a real solution of the problem by means of a thoroughgoing reorganization of the entire setup. In doing so they laid down the principle that every national standard should represent a consensus of those concerned, and that this can best be brought about through democratic cooperation of all interested groups. This remains a cardinal principle with the ASA today.

He used to refer to these two years of ASA history as "the period of the anguish of internal adjustment."

The occasion for this major series of controversies and the resulting reorganization was the problem of how a national program of safety standards should be handled. Two other organizations in which Whitney long held rank as an elder statesman were extremely active in the whole episode. These were the National Safety Council and the National Bureau of Casualty & Surety Underwriters, the Conservation Department of which was the predecessor of the National Conservation Bureau.

These three organizations have been fortunate in that through them there has gone out to the world the major part of the results of an extraordinarily rich lifetime of work—extraordinary in its vision and in its effectiveness. It is given to few men to exert so profound an influence in three fields of endeavor as did Whitney in the fields of insurance, safety, and standardization.

A philosophic cast of mind forced him to think a problem through to its fundamentals. This trait often irritated practical business men at first contact, but it enabled him to blaze many a trail that others have later made into broad highways. His pioneering work on experience rating in compensation insurance, and on the introduction of safety education in the schools are but two examples. For insurance executives to start investing tens of thousands of dollars yearly for the education of school children in safety was a notable event. It was long-term planning in earnest!

Whitney's wit, wisdom and tact made him a natural leader. For example, he played an important role in a second thoroughgoing reorganization of the ASA in 1927-28, as a result of which the name was changed to the American Standards Association and the ASA took its place as the national standardizing body.

No man has contributed more to the safety movement. No man has done more in the process of changing the casualty insurance business from a mere passive fiscal agency (collecting premiums and paying for losses) to an active instrument for the prevention of accidents.

His use of English was strikingly clear and simple. An address on "The Place of Standardization in Modern Life," presented at a Pan-American Conference at Lima, Peru, in 1924, has been widely quoted and translated into foreign languages. It remains one of the most profound discussions of the subject.[1]

His engaging personality won him a host of friends.

P. G. AGNEW

New Foreign Standards

THE following new and revised standards, just received by the American Standards Association, may be borrowed by ASA Members, or ordered through the ASA Library.

Australia

Guide for Quality Control Control Chart Method of Analysing Data Control Chart Method of Controlling Quality During Production	In One Vol. Nos. (E)Z.501 to 503-1943

Great Britain

British Standards for Aircraft Materials and Components

Hemp Cordage 4-F-32
Hemp Lines and Ropes for Kite Balloons 4-F-15

New British War Standards

Flushing Cisterns for Water Closets CG (B) 2824
Primers for Camouflage Paints CG (C) 2949

Draft Standards and Specifications

Clinker for Concrete Aggregate CG (CEB) 3131
Cold Twisted Steel Bars for Concrete Reinforcement CG (IS) 2892
Multi-Operator AC Arc Welding Plant and Equipments for Heavy Constructional Work including Recommendations for Installation and Use (Revision of BS1071-1942) CG (WE) 2831
Timber Ladders CG (TIB) 2752
Wood Screws CG (B) 2528

New Zealand

Battery-Containers for Carbon-Type Hearing-Aids NZSS (E) 100 March, 1943

South Africa

Dry or Seasoned Timber S.A. No. 15-1942

Switzerland

(The following standards are available in both French and German)

Filetage pour tube armé Profil du filet SNV24441
Filetage pour verres de protection et armatures SNV24900
Culots de lampes E14 et E27 SNV24905
Douilles avec filetage E14 Tolérances SNV24907
Douilles avec filetage E27 Tolérances SNV24909
Douilles avec filetage E14 Jauges SNV24911
Douilles avec filetage E27 Jauges SNV24913
Filetage Edison Jauges pleines pour douilles SNV24915

[1] This address was reprinted in INDUSTRIAL STANDARDIZATION, January, 1943, page 21.—EDITOR.

Film being wound on standard spools by a semi-automatic machine.

Eastman Kodak

New Standards Unify Dimensions For Amateur Roll Film

by Victor J. Moyes[1]

Development Department, Eastman Kodak Company

THE first standards ever prepared for the ten sizes of amateur roll film in most common use have now been approved by the American Standards Association. These films are used in hand-held, still-picture cameras, and each of the ten sizes is regularly supplied by at least two American manufacturers.

Eighteen dimensional standards—nine applying to film spools[2] and nine applying to the film itself and its backing paper[3]—cover the ten sizes. The apparent discrepancy between nine and ten is explained by the fact that in one case a single spool standard applies to two sizes of film and in another case one standard for film and backing paper applies to two different spools.

Two other photographic standards approved at the same time apply to the dimensions of photographic paper—centimeter-size sheets and rolls[4], and inch-width rolls.[5]

The detail work on the standards summarized above was done by Subcommittee One[6] of the ASA Sectional Committee on Standardization in the Field of Photography (Z38).

The ten most commonly used sizes of film are covered in these standards. No attempt was made by the Committee to standardize roll film produced by only one manufacturer and used almost exclusively in cameras made by this same manufacturer.

Amateur roll film consists—as all who have ever developed their own photographs know—of a length of sensitized photographic film attached to a continuous strip of backing paper. The backing paper is substantially longer than the film and extends beyond it at both ends. The film and the backing paper are wound on a flanged spool to provide a unit which can be loaded into a camera and removed, after exposure, in daylight.

This familiar article of commerce and sentiment and art is used, in a camera, to produce on the film strip a series of negatives, the position of each of which is governed by centering a series of numbers—printed on the backing paper—within a small window in the back of the camera.

The first daylight-loading roll film was introduced to the photographic world in 1895. It represented a major step in the field of amateur photography. The growth of film photography has progressed to a point at which substantially more than a hundred million rolls of film were being produced annually by the American manufacturers before wartime necessities compelled a reduction.

Some of the film sizes included in these standards date back almost to 1895, although many minor dimensional changes have been made in them as production methods have improved and as camera designs have

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[1] Mr. Moyes is alternate representative for Dr. F. M. Bishop of the Eastman Kodak Company on the ASA Sectional Committee on Standardization in the Field of Photography (Z38).

[2] Z38.1.16 to Z38.1.24 inclusive.

[3] Z38.1.7 to Z38.1.15 inclusive.

[4] Z38.1.6.

[5] Z38.1.5.

[6] Subcommittee One: Physical Dimensions of Light-Sensitive Materials and Holders Therefor. A. D. Jackling, Defender Photo Supply Company, *chairman.*

ASA Approves 25 Photography Standards

Nine American Standards giving dimensions for amateur roll films and backing paper, and nine American Standards giving dimensions for the film spools on which these films are used, have been approved by the American Standards Association. The standards cover ten sizes of amateur roll film since one of the spool standards applies to two sizes of film and one of the film standards is used with two different spools. All 18 standards are published together in a single document entitled American Standard Dimensions for Amateur Roll Film Spools, Film, and Backing Paper (Z38.1.7-1943 through Z38.1.24-1943).

The films covered by the standards are those which give pictures of the sizes listed below and are designated by each manufacturer as follows:

Nominal Picture Size (in Inches)	Agfa Ansco	Eastman Kodak	Gevaert	R. H. Macy & Co.	Sears-Roebuck
1⅝ x 2½ 1⅝ x 1⅝ 30 x 40 mm	A-8	127	G-27	27	S-27
2¼ x 2¼	B-1	117	——	—	——
2¼ x 3¼ 2¼ x 2¼ 1⅝ x 2¼	B-2	120	G-20	20	S-20
2¼ x 3¼ 2¼ x 2¼ 1⅝ x 2¼	PB-20	620	G-6-20	620	S-620
2½ x 4¼ 2½ x 2⅞ 2½ x 2⅛	D-6	116	G-16	16	S-16
2½ x 4¼ 2½ x 2⅞ 2½ x 2⅛	PD-16	616	G-6-16	616	S-616
3¼ x 4¼	E-6	118	G-18	18	S-18
3¼ x 4¼	F-6	124	G-24	24	——
2⅞ x 4⅞	M-6	130	G-30	30	S-30
3¼ x 5½	G-6	122	G-22	22	S-22

The publication is available from the American Standards Association at 50 cents.

Two other standards recently approved by the ASA are also being published and will be available within the next few weeks. These are the American Standard Dimensions of Photographic Papers—Inch-Width Rolls (Z38.1.5-1943), 10 cents; and the American Standard Dimensions of Photographic Papers—Centimeter-Size Sheets and Rolls (Z38.1.6-1943), 10 cents.

In addition to these twenty standards, the American Standards Association has approved an American Standard on Determining Photographic Film Speed which will be published soon and will be described in a forthcoming issue of INDUSTRIAL STANDARDIZATION.

Information about three other new standards and one revised standard, which have been approved but have not yet been printed, will be given when copies are available. These standards cover a Definition of Safety Photographic Film (Z38.3.1-1943); Lens Aperture Markings (Z38.4.7-1943); Picture Sizes for Roll Film Cameras (Z38.4.8-1943) and Methods of Testing Printing and Projection Equipment (Z38.7.5-1943).

A proposed method of processing to determine the sensitometry of photographic papers intended for projection or contact printing of continuous-tone negatives is being published for a year's trial and criticism.

Sectional Committee Z38 which is in charge of the photographic standards is working under the sponsorship of the Optical Society of America.

dictated more rigid tolerances. In some cases, moreover, film lengths have been increased to permit more pictures to appear on a roll.

No published data have been available throughout the years on the dimensions used by any manufacturer. Camera-makers, consequently—and particularly those who were not also film-producers—had to rely, in designing new cameras, on their own measurements of spools and film purchased on the market. It is little wonder, therefore, that some cameras did not function properly, or that they performed satisfactorily with the film of one manufacturer and not with that of another—because of slight differences in the tolerances used by the manufacturers.

The only standards for roll film previous to the American Standards now adopted were published by the German Standards Committee for one film and one spool corresponding to one of the 2¼ by 3¼ sizes. In addition to the data on the existing practice of the two principal American manufacturers, which were available to the subcommittee, the German standards sheets mentioned were also taken into consideration in preparing the American Standards.

Dimensional limits, minimum and maximum, had to be set up for the various spools in order to insure interchangeability in cameras and also to provide adequate protection for the film against unwanted light. There were no striking dissimilarities in the current practice of the two manufacturers in these respects, so that little difficulty was encountered in arriving at the final dimensions incorporated in these spool standards. These will involve only slight changes in the present dimensions used by either manufacturer. With the film and backing paper, only minimum dimensions were required to be established—except where the dimensions, such as the film widths, were essential to the design of accessory equipment such as developing tanks. These minimums in the standards assure satisfactory performance in cameras under ideal conditions. It is left to each manufacturer to decide how much allowance he should make for the manufacturing tolerances necessary for his particular method of spooling or how much of a factor of safety he wants to allow for customer error in actual use of the film.

In seven of the nine standards for film and backing paper, the dimensions already used by the manufac-

turers were sufficiently close to the absolute minimums necessary, or far enough in excess of them, to make it possible to obtain mutual agreement without difficulty. The other two sizes were less amenable to ready standardization. They presented serious problems—and these problems were solved only after a great deal of study and after a number of meetings of experts from the manufacturers, who co-operated wholeheartedly with the subcommittee.

The refractory two are those designated on the standards sheets as Z38.1.9 and Z38.1.10. These films provide a common picture size, the principal difference between them being in their spools. As originally produced in this country, these films made six pictures, 2¼ by 3¼ inches. In 1932, the length of the film was increased to permit eight pictures per roll.

Complications Caused by European Standards

These sizes were also produced in Europe with a nominal designation of 6 by 9 centimeters. European camera aperture lengths varied from 3¼ inches to 9 centimeters (which is slightly longer than 3½ inches). In 1937, a German standards sheet was published limiting the camera aperture to 57.5 by 88 millimeters maximum, or slightly larger than the commonly accepted American size. The effect of such over-sized camera apertures was to reduce the clear space separating successive pictures on the film strips.

This resulted in one complication—a tendency for the American manufacturers to allow more space between the numbers on the backing paper than would be necessary for American-made cameras, the purpose being to insure adequate margins between exposures with the European cameras. This in itself would not have been very serious to the subcommittee if there had not been still other complications.

Approximately in 1932, the European manufacturers had introduced cameras using the two films being discussed and taking sixteen half-size pictures instead of the eight pictures 6 by 9 centimeters in nominal size. This was effected by providing two windows in line in the camera back, and by the photographers' aligning each of the backing-paper numbers in the series from 1 to 8 successively in each of the windows to produce half-size pictures.

Partly because of the fact that a single row of numbers was being used for two different purposes, and partly because of design limitations on the relative position of the camera windows and the exposure area in the camera, the portion of the film strip occupied by the resulting sixteen pictures was displaced toward the trailer end of the film as compared with the normal eight pictures. This sometimes resulted in an incomplete sixteenth exposure with the American film.

Still another complication. One of the two films under discussion was also employed in cameras introduced about the same time that had an automatic type of winding mechanism whereby twelve photographs approximately 6 by 6 centimeters in size were produced instead of the eight nominal size pictures. The earlier types of these cameras required that the numeral "1" of the 1-to-8 series on the backing paper should be positioned in the camera window for the first exposure, after which the winding and positioning of the film was automatic, without reference to the numbers on the backing paper.

Many cameras of this type, though, did not provide equal spacing between exposures, but instead gave increasingly greater and unnecessarily wide margins as the film was advanced. This had the result of losing part of the twelfth exposure with American film. In addition, the position of the window for locating the number "1" for the first exposure was such that more film had to be allowed on the beginning end than was absolutely necessary for the ordinary American-made cameras.

This was the situation that faced the subcommittee in preparing the standards for these two sizes. Although it depicts a regrettable tendency on the part of camera-designers to ignore the complications ensuing when the dimensional limitations of the film are not considered, it must also be admitted that the lack of any dimensional uniformity or consistency of practice among film-manufacturers in this country and abroad was a contributing factor.

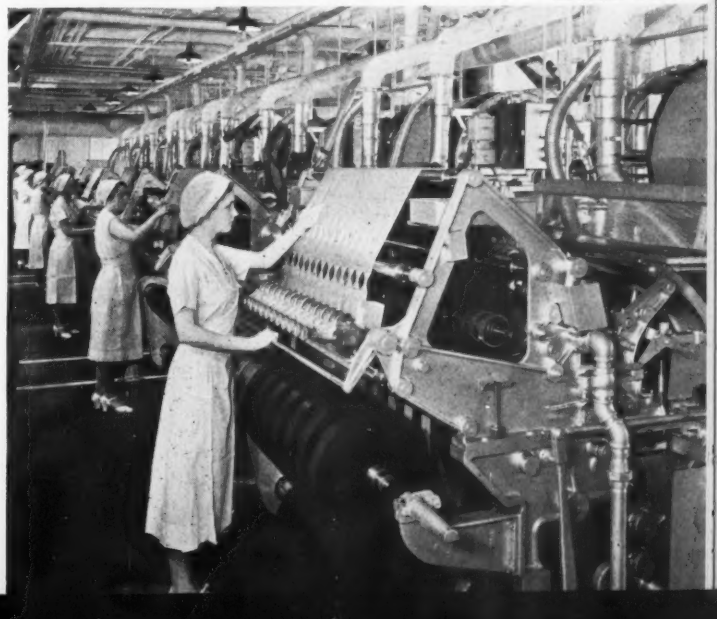
In some cases, film manufacturers had allowed for these discrepancies by spooling certain types of film long enough for use in these cameras, but retaining the shorter film lengths for other types of film. The standards could have been restricted by the subcommittee to shorter minimum dimensions, with obvious economies in material. It would then have been left to the option of each manufacturer to lengthen his film, for use in these special cameras, if he were so disposed. Alternatively, the standards could be drawn for a longer film length, which would be satisfactory for all important cameras sold in this country, of either domestic or foreign manufacture.

The realization was squarely faced that the second choice might involve substantial expense to the manufacturers, not only in material but also in tool and machinery changes. With the assent of the manufacturers, however, the subcommittee finally decided in favor of the longer dimensions, because of the large number of the special cameras in use in the United States.

As a secondary consideration, it was thought that the decision made from the broader viewpoint would greatly enhance the possibility of having the American Standards adopted as international standards. In this connection, it should be mentioned that the American Standard for one of the two films here discussed at

Roll film backing paper being cut.

Eastman Kodak



length corresponds very closely to the German film standard previously mentioned.

The standards adopted for both of the American films referred to in the preceding paragraphs provide extra rows of numbers on the backing paper, so that future cameras of the "split frame" type—half-size and 2¼ by 2¼ inches—can be made with a single window in the camera back for registering the numbers on the backing paper and spacing the photographs properly on the film strip.

These standards, as finally approved, give the film manufacturers the assurance that, if the film conforms to the standards, it will function satisfactorily in the important cameras now in use. They also point the way for designers of new cameras and new accessories —and they will serve as a basis for other standards under consideration by other subcommittees of Sectional Committee Z38.

The two standards approved for the dimensions of photographic papers cover centimeter-size sheets and rolls and inch-width rolls. The centimeter sizes are of relatively little interest to consumers in this country, but they are of substantial importance to the manufacturers doing export business to countries using the metric system. The standard covering dimensions of inch-width rolls gives specifications for width, length, and splice allowance. This should be of definite importance to designers of the recording equipment and other apparatus employing photographic paper in roll form.

Standard Sizes for Retail Packages Would Simplify Buying

National Bureau of Standards Proposes Series of Standard Units

AS one means of simplifying the problem of consumer purchasing, becoming increasingly complicated day by day, the National Bureau of Standards has just issued a recommendation for standardization of retail package sizes. The recommendation is made in a Letter Circular prepared by Ralph W. Smith, chief of the Section on Weights and Measures Administration of the National Bureau of Standards, and secretary of the National Conference on Weights and Measures. Mr. Smith proposes that three principles of size standardization for retail marketing units be adopted:

1. Use of standard units of weight or measure as basic packing units.

2. Inclusion in packing series of multiples and binary submultiples of basic unit only.

3. Restriction of series to sizes which are "self defining" as to quantity of content.

"If retail buying is to be conducted upon an intelligent and efficient basis, the purchaser must be able to evaluate his purchases or his potential purchases in understandable terms and to make ready comparisons among the numerous offers made to him in order to decide which offering is most advantageous to his taste and to his pocketbook," Mr. Smith declares. "To do this he must keep in mind three considerations—price, quality, and quantity.

"For example, suppose that the buyer's problem is to make a selection from five offered brands of packaged cookies. The prices asked for the several packages will almost certainly not be uniform. The quality factor combines such considerations as flavor, texture, richness, shape, and size of the individual cookies, and the like, and the buyer must rate the offered brands according to his personal preferences. The quantities contained in the different packages may very possibly be something like this: 6½, 7, 7¼, 7⅝, and 8 ounces. Thus there are in the buyer's purchasing equation three factors, and each is a variable."

Standardization of sizes of retail marketing units has already been accomplished in many cases by legislative or regulatory action, Mr. Smith declares. In these cases "the quantity factor ceases to be a variable and becomes fixed for those units of like commodities which a customer must compare if he is to buy intelligently." In addition, some industries have voluntarily adopted one or more standard sizes for their retail packages.

The following are suggested by Mr. Smith, and recommended by the National Bureau of Standards, as a set of guiding principles to follow in drafting a program for package standardization:

1. From the appropriate standard table of weight or measure, select the largest basic unit which is applicable to the series, or to the portion of the series, being standardized. For example, in the case of a liquid commodity, the gallon, the quart, and the fluid ounce are basic units which might be chosen for use alone or in combination, depending upon the size range to be covered; in the case of a solid commodity, the avoirdupois pound and ounce would be comparable units.

2. Build up the standardized series to include only the basic unit or units and their multiples and binary submultiples, that is, amounts arrived at by successively dividing the unit by the factor 2.

3. Further restrict the series by reducing the number of included sizes to the practicable minimum, striving always to make each included size "self defining" as to capacity or content in comparison with other sizes in its own series; that is to say, any size should differ from the next smaller and the next larger in the series by enough to enable a customer to tell by merely looking at that package, how much it contains.

4. When it is felt that a non-standard size—that is, one which does not meet the requirements of item 2—should be included, include it only when such action can be justified on the strongest grounds of need or conservation.

Copies of Mr. Smith's paper "Some Notes on Standardization with Particular Reference to Retail Package Sizes," Letter Circular LC 726, may be obtained from the National Bureau of Standards, Washington, D. C.

New Plumbing Standards To Keep Drinking Water Pure

by A. A. Kalinske and F. M. Dawson[1]

THE possibility of polluting the safe water supply by faulty plumbing connections and fixtures has been recognized for several decades and has been written about extensively. Little concerted action was taken to prevent such possibilities, however, until several tragic disease outbreaks occurred—outbreaks which were definitely traced to water pollution caused by improper piping connections and wrongly designed plumbing fixtures. One serious outbreak was, of course, the Chicago World's Fair amebic dysentery epidemic of 1933. Since then there have been several other smaller ones which have been traced to cross-connections between pure and impure water and to back-siphonage or back-flow from fixtures. In this article the words back-flow and back-siphonage are used interchangeably but it should be recognized that back-flow may be found when there is no back-siphonage due to vacuum conditions.

Many Devices Suggested

Many methods and many devices have been suggested as protective measures to prevent back-flow of unsafe matter into the pure water supply lines. The diversified fixtures that are installed on plumbing systems and the fact that a great many of them are subject to possible back-siphonage make the correction and protection problem quite involved. In general, the prevention of back-siphonage resolves itself into preventing a vacuum from acting on the contents of a fixture and thus drawing such contents back into the water-supply line. The fact that partial vacuums will and can occur in water pipes is familiar to all engineers and need not be discussed here. As a result of this wide knowledge of the problem a great many "gadgets" and devices were designed for the purpose of preventing vacuums and for breaking vacuums. Some of these devices were obviously useless, others had minor faults, and some were quite good. It thus became apparent that, if various protective measures and devices for maintenance of the purity of the water supply were to be depended upon, proper installation and design standards would have to be evolved. Otherwise, those unfamiliar with the technical details of the problem would not be able to determine whether any particular protective measure or device was really capable of affording the necessary protection.

In 1938, ASA Sectional Committee on Minimum Requirements for Plumbing and Standardization of Plumbing Equipment (A40), organized a subcommittee on air gaps and back-flow preventers. After a great many meetings and discussions, the air-gap standards were approved in July, 1941, and finally the back-flow preventer standards were approved by the committee in June, 1942. The standards were considered and approved by the sponsor groups—the American Society of Mechanical Engineers and the American Public Health Association—and submitted to the American Standards Association for final approval. The standard on Air Gaps was approved by ASA in January 1942; the standard on back-flow preventers in June, 1943. They have been published together in a single volume.

A. Basic Principles

These standards are based on a very important fundamental principle relating to the protection of water supplies from possible pollution due to improper connections and faulty fixtures. This principle is that complete protection can only be secured *if each outlet or fixture which is subject to back-flow is individually protected.* This is a most important item and one that should be kept constantly in mind.

Another basic idea recognized by the committee is *that the safest way to prevent back-flow is by providing a safe air gap.* Only where a proper air gap cannot

Iowa Institute of Hydraulic Research

Since safe air gaps can be destroyed by the use of hose connections, backflow preventers are recommended in such cases.

[1] Mr. Dawson, a member of the subcommittee which developed the standards on air gaps and back-flow preventers, is Dean of the College of Engineering, University of Iowa, and Director of the Iowa Institute of Hydraulic Research. He is a representative of the American Water Works Association on the ASA Sectional Committee on Minimum Requirements for Plumbing and Standardization of Plumbing Equipment (A40).

Mr. Kalinske is Assistant Professor of Civil Engineering at the University of Iowa.

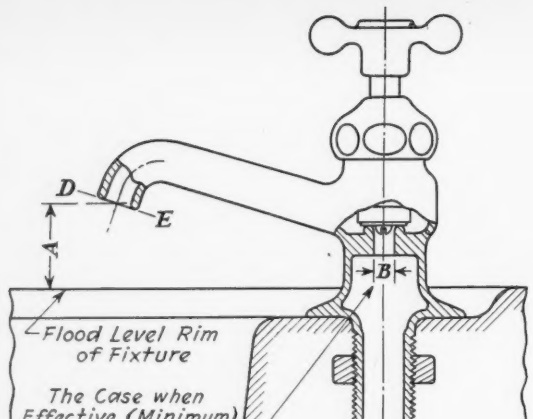


Fig. 1—Air gap and effective opening.

be used, or where it is felt that an air gap will be deliberately eliminated by the fixture users, is a back-flow preventer recommended.

A basic principle relating to back-flow preventers is that any such *device shall never be installed on the inlet side of the control valve, as they should not be subject to constant water-supply line pressure.* They are to be installed between the control valve and the fixture.

B. Air Gaps Required

These standards define an air gap in a water-supply system as "The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank or plumbing fixture and the flood-level rim of the receptacle." (See A in Fig. 1). The "flood-level rim" is the top edge of the receptacle from which water overflows onto the floor. The basic reason for requiring a definite air gap between a faucet and the maximum water level in a fixture is that if a vacuum occurs in the piping and the faucet is opened, the inrushing air will pick up water from the surface that is too close to the spout. Detailed experiments have shown that the maximum height to which water will be picked up from a free water surface by inrushing air is in general related to the size of the minimum opening between the outside air and the piping system; the larger the opening the larger the necessary air gap. The minimum opening (effective opening) usually occurs through the valve or faucet. The minimum air gaps for generally used plumbing fixtures are to be as follows:

> Lavatories, 1.0.; sinks, laundry trays, goose-neck bath faucets, 1.5 in.; overrim bath fillers, 2.0 in. In general the air gap should be at least two times the diameter of the effective opening. If a fixture wall is near the air gap, the values given are to be increased by 50 percent.

Special provision is made for tanks or vats where it is impossible to have the air gap above the fixture top. Such installations, if they have a special overflow of specified size and construction, may have the inlet pip below the tank top. This is not a recommended pro cedure; only a substitute.

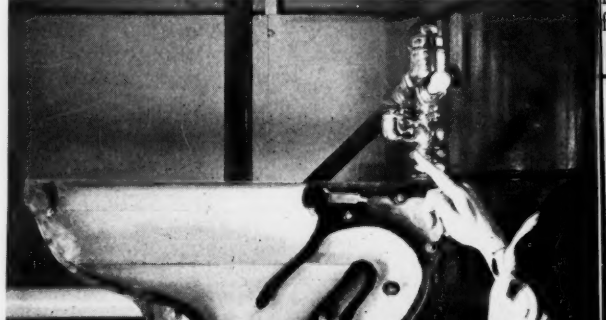
C. Back-flow Preventers: Design and Construction

Back-flow preventers or vacuum-breakers are recom mended by the standards for use when a safe air ga is not provided. Two general types are permitted Type A devices are those which depend on one o more moving or movable parts for proper operation type B are devices which do not depend on the oper tion of a moving or movable part. The two types ar illustrated in Figs. 2 and 3. An important feature o any back-flow preventer is its "critical level," whic is the level to which the device can be immersed i water before back-flow begins when tested under th worst vacuum conditions.

The preventers must be complete working units an must fulfill the following general specifications (1) They must have a water passage of a size to allo an ample flow of water to the fixture. (2) They mus have an air-inlet opening not less than 100 percen of the nominal size of the inlet to the control valv Type A devices shall include a disc or other movabl unit which will normally be in a position to preven the force of the vacuum from acting on the contents o the fixture. The air ports shall be open except during flow of water. The force of the water shall act on th disc unit, closing the air ports, and the disc shall re turn to its normal position without help from spring or other flexible or elastic materials, as soon as th water stops flowing.

D. Back-flow Preventers: Installation and Tests

Again we would emphasize that these back-flow pre venters should never be installed on the inlet side of a control valve, but between the control valve and the fixture. The critical level of the preventer shall be installed not less than four times the nominal diameter of the inlet of the control valve above the flood-level rim of the fixture. On closets, urinals, and similar fixtures, this elevation shall never be less than four inches. For tanks and vats, special provision is made for the installation of a preventer below the fixture.



Iowa Institute of Hydraulic Research

Back-flow preventers in closet bowls aid in keeping water systems unpolluted.

p if certain rigid conditions are met regarding the verflow.

For closet tanks the back-flow preventer shall be one nch or more above the top of the overflow opening, nd this overflow shall have a capacity sufficient to eep water from rising more than one-half inch above e overflow top when water enters the tank at five allons per minute.

The principal performance test to be met by any reventer is that it shall not permit a water rise in e outlet pipe of the device of more than one inch nder maximum vacuum conditions. The vacuum tests be applied are very definitely prescribed and de- gned to simulate any possible condition that might ccur in a water-piping system.

E. General Remarks

A very important part of these standards is the sec- on on terms and definitions relating to the problem f cross-connections and back-flow. Considerable time as spent by the committee on this part and we be- eve that the standardization of terms will prove to be most helpful accomplishment.

So far as prevention of water pollution from faulty onnections and plumbing fixtures is concerned, no uestion can exist but that these standards, if enforced, ill achieve the desired results. The user of any fix- re or device which meets these standards can be ssured that so far as design is concerned the manu- acturer has done his utmost to prevent any possible ater pollution. However, design is not enough. In ddition to proper design it is necessary that fixtures nd back-flow preventers be installed correctly; other- ise all the good design features will be useless. To nsure proper installation it is necessary that any con- ections made to the water-supply system be made by ndividuals who are familiar with the health hazards f back-siphonage, and who are required by law to bey certain rules and regulations. Such individuals re obviously those licensed to do that work.

We trust that these standards will gradually be in- orporated into the plumbing codes of the various ties and states, and that they will thus become not nly a part of the working knowledge of plumbers roughout the country, but also of all officials charged ith enforcing the health regulations. In this way ey will really achieve their all-important goal, that f protecting the public health and the public interest.

Approval of the American Standards on Air Gaps and Backflow Preventers in Plumbing Systems (A40.4-1942) and (A40.6-1943) provides a nationally acceptable criterion for safe design and connection of water-supply lines. When these standards are put into universal practice it is expected that any possibility of back-flow or back-siphonage which might pollute the pure water supply will be under control.

The two standards, developed under the sponsorship of the American Society of Mechanical Engineers and the American Public Health Association, have been published in one document. The publication is available at 45 cents per copy.

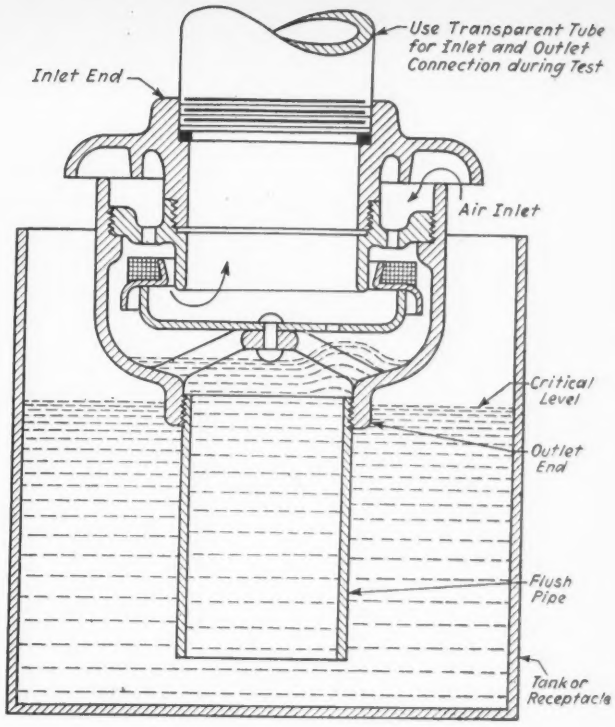


Fig. 2—A Type A back-flow preventer.

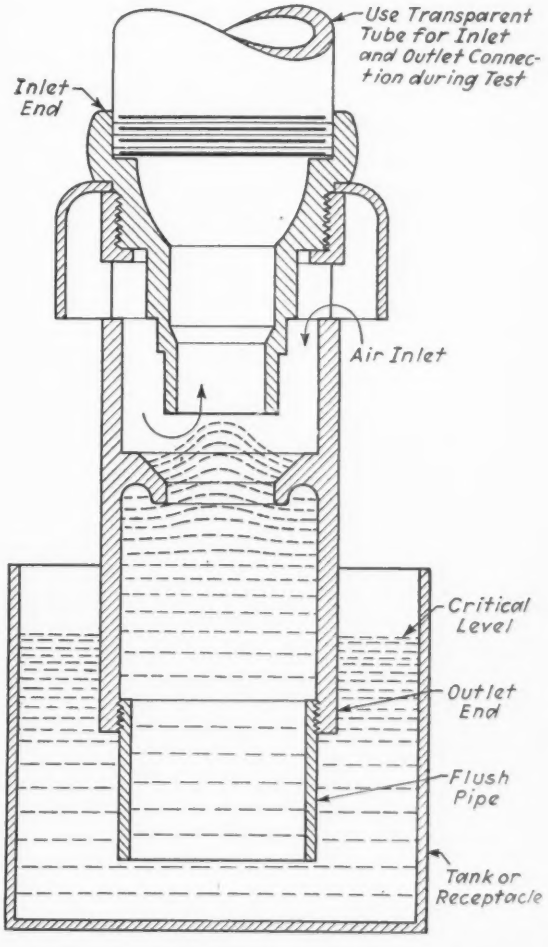


Fig. 3—A Type B back-flow preventer.

Office of Economic Stabilization Orders Meat Labels Continued

OPA Acts to Remove Grade-Labeling Requirements from Price Orders

The Office of Price Administration is taking action to eliminate grade labeling provisions from its pricing orders in line with recent legislation prohibiting OPA grading requirements, but in at least one case, that of meat, the Office of Economic Stabilization has stepped in to keep the grade labels.

The OES order continues the OPA requirements by which maximum prices for meats are based on uniform grades promulgated by the U. S. Department of Agriculture. The OPA regulation requires that all beef, veal, lamb, and mutton be classified according to these grades by Federal graders and that the grade be marked on the carcass and the wholesale cut and retained on the retail cut. Pork is not included in the order, because pork is not graded by the Department.

In continuing the meat labeling, Fred M. Vinson, Director of the Office of Economic Stabilization, explained that the grading and grade marking had been recommended to OPA by the meat industry. He added that while OPA's authority to require grade labeling had been limited by the recent legislation, this action had not affected the power granted earlier by Congress to the President to stabilize prices affecting the cost of living. The President had delegated this authority to the Director of Economic Stabilization, Mr. Vinson explained, and he was availing himself of the right to continue the labeling rule in force.

"Without grade marking of meat," Mr. Vinson declared, "no consumer could know whether he was paying legal prices for meat, nor could any Government inspection staff, no matter how large, possibly trace the cuts in a retailer's showcase to the particular carcass from which they came. Upgrading would result."

Showing how sharp the price increases might be if grading and grade marking were eliminated from price control over meat, Mr. Vinson pointed out that the base zone ceiling prices for beef range from $12.50 per hundredweight for carcasses of canner or cutter grade to $20.00 per hundredweight for carcasses of choice grade. Without grade marking, he explained, the former could be sold as the latter in a meat-short, seller's market.

This spread in maximum prices is accentuated at the retail level by virtue of the mark-ups, Mr. Vinson declared. In Washington, D. C., for example, the retail ceiling prices for short loins, from which porterhouse and T-bone steaks are derived, range from 33 cents a pound to 55 cents a pound. Without grade marking, it would be possible to sell the bottom as the top grade, he said, and this sort of upgrading could result in a general price increase in meats that could average as much as 36.6 per cent.

The removal of compulsory grade marking would be a great temptation to dealers to establish the price for the highest grade as a single price, regardless of grade, Mr. Vinson stated. This, he declared, probably would force OPA to revise the present system of pricing by grade and to consider seriously the establishment of a fair single price for all meats, regardless of grade.

Price orders from which the Office of Price Administration has already eliminated grade-labeling requirements cover packed foods, peanuts, tobacco, dry edible beans, and rubber heels.

Packers of fruits, vegetables, and some fruit juices are now required only to state grades on their invoices in instances where they market more than one grade of the product under a brand name.

Shellers of peanuts who sell "extra large" and "medium" grades of Virginia-type raw shelled peanuts no longer need state the United States grade on the outside of the bag or container, but must still give this information on their invoices.

Country shippers of dry edible beans need not state the Government grades on the labels.

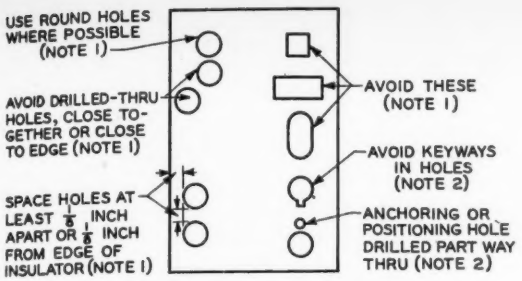
In the case of the 1942 Burley tobacco crop, warehousemen are permitted if they wish to remove the tag attached to the basket of tobacco to indicate its grade.

The requirement for grade labeling of rubber heels has been eliminated from OPA regulation No. 200.

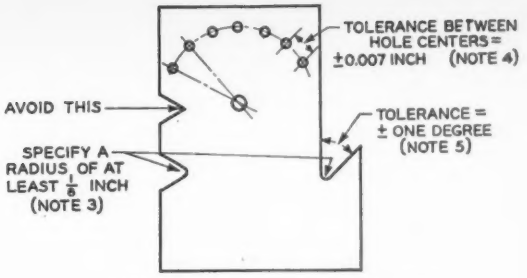
MacLeod Helps Plan Production of Consumer Goods

Willis S. MacLeod, Director of the Standards Section of the Office of Price Administration, has been loaned by OPA to the Office of Civilian Requirements in connection with the new plans for the production of essential consumer goods announced recently by the War Production Board. Mr. MacLeod will assist the vice-chairman of the OCR in formulating plans and in organizing and coordinating the work on civilian commodity conservation and production. His work will be directed toward assuring that the short supplies of raw materials available for civilian commodities are used to obtain the greatest production of the most serviceable goods in the ranges of price and quality most needed by civilians.

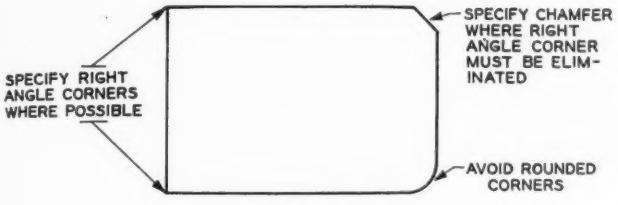
This, it is planned, will be accomplished through the techniques established for conservation of materials, including standardization and simplification as embodied in quality specifications developed by the industry. It is expected that through these methods it will be possible to produce the required quantities of civilian goods with the least strain on the critically short materials, productive facilities, manpower, and distribution capacity. A basis is now being laid for effective cooperation on these problems on the part of the War and Government agencies concerned. Problems involving the use of war resources for civilian production will thus be solved through the coordinated efforts of each agency involved; for example, the War Production Board for production; the Manpower Commission for manpower; and the Office of Price Administration for economic stabilization.



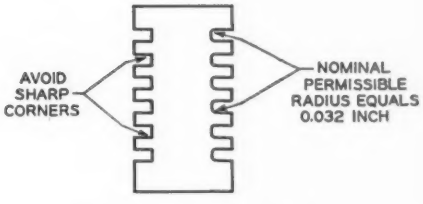
HOLES AND HOLE SPACING
FIG. 1



ANGLES AND ANGULAR DIMENSIONS
FIG. 2



CORNERS (NOTE 6)
FIG. 3



SLOTTED BARS (NOTE 7)
FIG. 4

Diagrams like this explain design criteria in the machining of glass-bonded mica.

New Standard on Glass-Bonded Mica Radio Insulators

With "increased production" the loudest battle cry on the home front today, the recent approval of the American War Standard, Glass-Bonded Mica Radio Insulators (C75.6-1943), is welcome news to the radio industry. Maximum production with a minimum waste of time and material is expected with this standardization of performance requirements, test methods, and design practice for glass-bonded mica insulators.

The chief feature of the standard is that it provides engineers and draftsmen with specific information about the machining of glass-bonded mica items. How holes are to be tapped, how corners are to be cut, and what thicknesses are available, are some of the design criteria set forth. Informative diagrams are included which indicate the correct and incorrect ways to machine glass-bonded mica.

Armed with this kind of information, the designer can now consult the insulator manufacturer or fabricator concerning specific design details applicable to the insulator under consideration. In this way the most desirable design is arrived at with a minimum of cost and production time.

The new standard differs from the other American War Standards on military radio components inasmuch as no standard shapes or type designations thereof are set up. Only the procedure for machining glass-bonded mica radio insulators and recommended practice for the handling and machining of such insulators are indicated.

It is expected that the Armed Forces and radio equipment manufacturers will use the standard in designing new equipment, and that replacement parts also will comply with the specifications so that greater interchangeability will result.

The new War Standard was prepared through the coordinated efforts of representatives of industry and the Armed Forces at the request of the War Production Board. The committee that developed this standard was headed by L. J. Cavanaugh, General Electric Company. Its membership included: L. C. Athy, International Products Corporation, (P. C. Stufft, *Alternate*); B. R. Boymel, Navy Department, Bureau of Ships, (J. R. O'Brien, *Alternate*); T. M. Caven and G. M. Heckel, Camp Evans Signal Laboratory; D. E. Replogle, Electronic Mechanics, Inc, (Robert Goldsmith, *Alternate*); W. A. Evans, Bell Telephone Laboratories, (K. G. Coutlee, *Alternate*); H. E. Froberg, Colonial Kolonite Company; A. T. Krogh, Westinghouse Electric & Manufacturing Company, (L. T. Mallette, *Alternate*); Harold Miller, Aircraft Radio Laboratory; A. J. Monack, Mycalex Corporation of America, (S. D. Haberle, *Alternate*); H. R. Terhune, Radio Corporation of America; H. R. Wilsey, American Standards Association, *Secretary*.

Copies of the new American War Standard, Glass-Bonded Mica Radio Insulators (C75.6-1943), may be obtained from the American Standards Association at 25 cents each.

Standard Tests and Specifications In WPB and OPA Orders

IN many of the War Production Board and Office of Price Administration orders, standards play an important part, either through reference to existing standards or through setting up standards or simplification schedules in the order itself. Such standards form the basis for control of production, conservation of materials, or for control of prices. The following orders have the effect of setting up standard specifications, tests, grades, or simplification schedules.

War Production Board

Air-Cooled Internal Combustion Engines (Limitation Order L-254

This order is designed to reduce the number of repair parts, to effect greater interchangeability, and to increase production for the military services. Estimates indicate that the order will reduce repair parts for maintenance by 40 percent and reduce basic models by approximately 50 percent.

Circuit Breakers, Small Air (Limitation Order L-300)

Eliminates special devices, ratings, and special testing, thereby increasing production by approximately 20 percent.

Control Valves and Regulators (Limitation Order L-272)

Indicating Dial Pressure Gauges (Schedule IV)—

Regulates sizes and pressure ranges and eliminates frills. Standardizes large-size connections. Is expected to increase production from 15 to 25 percent.

Control Valves and Regulators (Schedule V)—

Sizes and pressure classes are specified for steel, iron, and bronze body regulators. Materials are specified to be used for inner valves, seat rings, and bolting materials. This order is expected to result in 15 percent increase in production.

Food Processing Machinery (Limitation Order L-292)

Dairy Machinery and Equipment—

Reduced to only 38 types with one to three styles and one to five sizes (or capacities) for each type.

Egg Processing Equipment—

Allows only one style for each part of egg-breaking equipment, one style sterilizer and two types of egg washers, with only one to two sizes or capacities for each style.

Poultry Processing Equipment—

Allows one to two styles for each part of equipment and only one to three sizes or capacities for each style.

Canning Machinery and Equipment—

Reduced from 540 different models to 125.

Hand Tools (Limitation Order L-216)

Rotary Files (Schedule IV)—

Number of sizes reduced from 22 to 10 on high-speed, from 11 to 9 on high-carbon, and from 6 to 2 on low-carbon files. Shapes decreased in number from 16 to 13; shapes and sizes together from 354 to 71 or a total reduction of 79 percent. Expected to save about 250 tons of all alloy steel from reduction of shank sizes, etc. Increases productive capacity by 10 percent, thereby alleviating by 30 percent the four-month backlog on these tools which are being produced entirely for the Armed Services, WPB announces.

Wrenches (Schedule II) and Pliers and Nippers (Schedule III)

Simplification is effected by reduction of sizes, and by limiting these tools to one style and one grade per producer. Permitted sizes can be made in only one set of dimensions. No more than one trade or brand name can be applied to the same type of wrench. Only specified types of finish are allowed and unnecessary polishing is prohibited. Production of these highly critical hand tools has been retarded by the large varieties of sizes, WPB announces, and it is expected that this order will increase production to meet civilian and military demands by from 10 to 15 percent.

Power Switchgear and High-Voltage Insulators (Limitation Order L-154)

Power Switchgear (Schedule IV)—

Restricts the use of materials and sets up specifications. Eliminates duplicate or unnecessary accessories, measuring instruments, steel floor plates, panels and barriers, etc., and reduces the types and sizes of certain parts and accessories, such as switches, which are permitted in three sizes only, of specified design; and enclosed outputs which are permitted in only five sizes. The order also relaxes testing requirements.

High-Voltage Insulators (Schedule V)—

Reduces number of types, and eliminates special models and unnecessary accessories. Cap and pin insulators are reduced from 44 models to 8. Other types of insulators are similarly reduced. Testing requirements are relaxed.

Welded Chain (Limitation Order L-302)

Reduces number of sizes from 1544 to 348—77 percent reduction. Reduces types from 138 to 66, or 53 percent reduction. This reduction will increase productive capacity by 10 to 15 percent and thereby decrease the nine months' backlog by 13 to 20 percent within one year, WPB announces.

Office of Price Administration

Cider Vinegar (Maximum Price Regulation 428, effective July 22, 1943)

Sets flat ceiling prices for producers and secondary packers and provides formulas for determining prices at other distribution levels according to grades based on grainage strength or acetic acid content of cider vinegar.

Maple, Birch, and Beech Flooring (Maximum Price Regulation 432, effective July 24, 1943)

Maximum prices are established for direct-mill sales of all sizes of maple, birch, and beech flooring according to the effective Grading Rules of the Maple Flooring Association.

Lumber

Southern Hardwood (Maximum Price Regulation 97, Amendment 5, effective July 2, 1943)

Appalachian Hardwood (Maximum Price Regulation 146, Amendment 13, effective July 23, 1943)

Central Hardwood (Maximum Price Regulation 155, Amendment 7, effective July 14, 1943)

Grade definitions set forth in the January 1, 1943, edition of "Rules for the Measurement and Inspection of Hardwood Lumber" issued by the National Hardwood Lumber Association are adopted by these amendments as standard for each of the three regulations.

Used Typewriters (Revised Maximum Price Regulation 162, effective July 31, 1943)

In a complete revision of this regulation, ceiling prices for sales of used typewriters are fixed according to specifications of condition for three classes of machines.

A "rebuilt" typewriter is defined as one which has been dismantled and inspected since its last use and which meets the following specifications: All internal and external parts clean and free from rust, corrosion, and flaws; main and carriage frame never bent nor broken; finish of main frame or mask approximately equivalent to new finish; working mechanism lubricated and adjusted to new-machine specifications; type whole, clear, accurately aligned; ribbon, type-bar rest, platen surface, feed rolls, paper-finger or bail rolls new, and adjusted to give maximum performance; and on which the seller *guarantees* to repair free of charge, for a period of six months, any defects in operation caused by faulty materials, parts, or workmanship.

A "reconditioned" typewriter is one which has been inspected since its last use and which meets the following specifications: All parts clean; internal parts free from rust, corrosion, flaws; working mechanism lubricated and accurately adjusted; type whole, clear, accurately aligned; ribbon new; platen, feed rolls and paper-finger or bail rolls of size, shape, and adjustment to give positive feed, registration, and manifolding performance; and on which the seller *guarantees* to repair free of all charges for a period of three months any defects in operation caused by faulty materials, parts, or workmanship.

A "rough" typewriter is a used typewriter which is not a demonstrator or a rebuilt or reconditioned typepriter.

Western Primary Forest Products (Revised Maximum Price Regulation 284, effective May 22, 1943, and Amendment 1, effective August 2, 1943)

Dollars-and-cents maximum prices based upon recognized established standards are set by this regulation for Western poles, piling, and railroad ties. Schedules of prices for Western red cedar, Douglas fir, and lodgepole pine poles are based on American Standard specifications and dimensional standards (American Standards 05.2-1941; 05.5-1941; and 05.6-1941); for cleaned peeled Douglas fir piling on Navy specifications 39P-14a; and for Western pine, Douglas fir, Western red cedar, and split and hewn redwood railroad ties upon specifications of the American Railway Engineering Association of the West Coast Lumbermen's Association. Also covered by this regulation are Western mine pit posts, ties, timbers, wedges, and cap pieces, prices for which are based upon OPA-adopted size classifications customarily followed in the industry. Methods for determining tentative prices for sizes, grades, treating, and extras not specifically priced in the schedules are provided.

Canadian Association Organizes Aircraft Standards Committee

An Aircraft Standards Technical Committee has been organized by the Canadian Engineering Standards Association to set up standards and simplified practices for materials and component parts used in the construction of aircraft in Canada, and to coordinate these standards with the standards used in the United States, Great Britain, and Australia. Two meetings of the committee have already been held, and a third is scheduled for August 19 and 20.

Cooperative arrangements have been made by the Committee with the British Air Commission, the U. S. Aeronautical Board, U. S. Aeronautical Chamber of Commerce, the U. S. Army and Navy Air Corps, the National Aircraft Standards Committee, the Society of Automotive Engineers, and other organizations working on aircraft standards in the United States. It is planned that the functions of each of the important organizations in the aircraft standards field will be discussed in detail at the August meeting in order that all representatives present at the meeting will have a clear picture of the general program.

The work of the Aircraft Standards Technical Committee is to include adoption of standards, the issuing of bulletins on conservation, collection of bulletins and information from standardization organizations in other countries, and exchange of information with such organizations. Examples of conservation and of standardization have already been prepared and will be presented at the August meeting. It is expected that a standardization proposal on aluminum tube gages will be ready for consideration at the meeting.

The Canadian Aircraft Standards Technical Committee, which will function as a subcommittee of the Canadian Engineering Standards Association, is made up of representatives of the nine Canadian aircraft contractors, the Royal Canadian Air Force, and the Department of Munitions and Supply, Aircraft Production Branch. In addition to the Air Force and the Munitions Department, those represented at the first meetings of the Committee included Boeing Aircraft of Canada, Ltd; Canadian Car and Foundry Company, Ltd; Canadian Vickers, Ltd; DeHavilland Aircraft, Ltd; Fairchild Aircraft, Ltd; Federal Aircraft, Ltd; Fleet Aircraft, Ltd; Noordwyn Aviation, Ltd; and Victory Aircraft, Ltd.

Bureau of Ships Approves Instrument Testing Standard

The Radio Division, Bureau of Ships, announces its approval of the American War Standard for Shock Testing Mechanism for Electrical Indicating Instruments (2½- and 3½-Inch Round Flush Mounting, Panel Type) for use in testing instruments used in Radio, Radar, and Underwater Sound Equipment on the Electronics Precedence List.

This standard has also been approved by the Signal Corps Standards Agency of the U. S. Army for use by the Signal Corps. Announcement of approval by the Signal Corps was inserted in the printed copies of the standard. The approval by the Bureau of Ships was received too late for this, however, and therefore, this announcement will serve as official notice to those who have received copies of the standard.

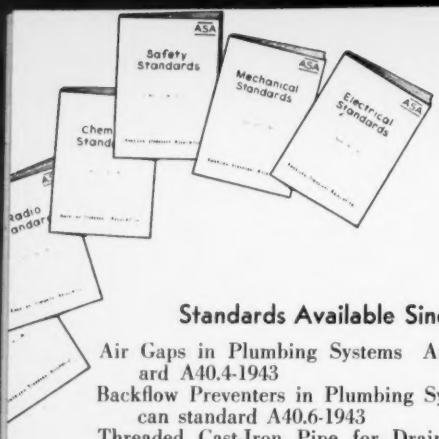
Government Renews ASA Contracts

The contracts of the American Standards Association for the development of war standards for the Federal Government have been renewed for the current fiscal year.

The contract with the War Production Board has been increased from $60,000 to $135,000, $110,000 of which is for standards for military radio and $25,000 for standards developed for the Conservation Division of WPB.

The contract with the Office of Price Administration remains the same—$30,000.

Under these contracts 35 standards and revisions have already been developed and issued, and 27 additional ones are under development.



ASA Standards Activities

American Standards

Standards Available Since Our July Issue

Air Gaps in Plumbing Systems American Standard A40.4-1943
Backflow Preventers in Plumbing Systems American standard A40.6-1943
} In one Volume 45¢

Threaded Cast-Iron Pipe for Drainage, Vent and Waste Services American Standard A40.5-1943 25¢

Letter Symbols for Heat and Thermodynamics Including Heat Flow American Standard Z10.4-1943 25¢

Zinc Coating of Iron and Steel
- Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses (ASTM A120-42) American Standard G8.7-1943 25¢
- Zinc-Coated Steel Wire Strand ("Galvanized" and Class A ["Extra Galvanized"]) (ASTM A122-41) American Standard G8.6-1943 25¢

Standards Approved Since Our July Issue

Apparatus Bushings (AIEE 21-1941) American Standard C76.1-1943

Electrical Insulating Materials
- Methods of Testing
  - Sheet and Plate Materials Used in Electrical Insulation (ASTM D229-42) American Standard C59.13-1943
  - Laminated Tubes Used in Electrical Insulation (ASTM D348-42) American Standard C59.14-1943
  - Laminated Round Rods Used in Electrical Insulation (ASTM D349-42) American Standard C59.15-1943

Electrical Insulating Materials—(Continued)
- Molded Materials Used for Electrical Insulation (ASTM D48-42T) American Standard C59.1-1943.
- Impact Resistance of Plastics and Electrical Insulating Materials (ASTM D256-41T) American Standard C59.11-1943

Wet Tests (AIEE 29-1941) American Standard C77.1-1943

Standards Being Considered by ASA for Approval

Basic Sulfate White Lead, Tentative Specifications for (ASTM D82-42T) Revisions of American Standard K7-1941

Chemical Analysis of Alloys of Lead, Tin, Antimony and Copper (ASTM B18-36T) Revision of K5-1922.

Chrome Yellow and Chrome Orange, Tentative Specifications for (ASTM D211-42T) Revision of American Standard K27-1941

Copper-Base Alloy Forging Rods, Bars, and Shapes, Tentative Specifications for (ASTM B124-42T) Revision of American Tentative Standard H7-1939

Standards Submitted for Consideration Since Our July Issue

Abrasive Wheels, Safety Code for the Use, Care and Protection of B7

Allowable Concentration of Lead and Certain of Its Inorganic Compounds Z37

Shafting and Stock Keys Revision of B17.1-1934

American War Standards

Standards Approved and Published

Accuracy of Engine Lathes B5.16-1941 25¢

Allowable Concentration of Cadmium Z37.5-1941 20¢

Allowable Concentration of Manganese Z37.6-1942 20¢

Code for Electricity Meters (Revision of Paragraph 827) C12WS-1942 10¢

Color, Specification and Description of Z44-1942 25¢

Components for Military Radio
- Ceramic Radio Insulating Materials, Class L C75.1-1943 20¢
- Ceramic Radio Dielectric Materials, Class H C75.4-1943 20¢
- Electrical Indicating Instruments (2½- and 3½-Inch, Round, Flush-Mounting, Panel-Type) C39.2-1942 50¢
- External Meter Resistors (Ferrule Terminal Styles) C75.5-1943 25¢
- Fixed Mica-Dielectric Capacitors C75.3-1943 50¢
- Shock-Testing Mechanism for Electrical Indicating Instruments (2½- and 3½-Inch Round, Flush-Mounting, Panel-Type) C39.3-1943 25¢

Domestic Gas Ranges, Approval Requirements Z21.1ES-1942 $1.00

Gas Water Heaters, Approval Requirements Z21.10WS-1942 $1.00

Machine Tool Electrical Standards C74-1942 40¢

Photographic Exposure Computer Z38.2.2-1942 $1.00

Pressure Ratings for Cast-Iron Pipe Flanges and Flanged Fittings, Class 125 B16a1-1943 10¢

Pressure-Temperature Ratings for Steel Pipe Flanges, Flanged Fittings and Valves (Revision of Tables 6 to 11 inclusive, American Standard B16e-1939) B16e5-1943 25¢

Protective Lighting for Industrial Properties A85-1942 50¢

Quality Control
- Guide for Quality Control Z1.1-1941
- Control Chart Method of Analyzing Data Z1.2-1941
- } In one Volume 75¢
- Control Chart Method of Controlling Quality During Production Z1.3-1942 75¢

Standards Approved—(Continued)

Protective Occupational Footwear
- Men's Safety-Toe Shoes Z41.1-1943
- Men's Conductive Shoes Z41.3-1943, 2nd Edition
- Men's Explosives-Operations (Non-Sparking) Shoes Z41.4-1943
- Men's Electrical-Hazards Shoes Z41.5-1943, 2nd Edition
- Men's Foundry (Molders) Shoes Z41.6-1943, 2nd Edition

} In one Volume 40¢

- Women's Safety-Toe (High) Shoes Z41.7-1943
- Women's Explosives-Operations (Non-Sparking) Shoes Z41.8-1943
- Women's Conductive Shoes Z41.9-1943
- Women's Safety-Toe (Oxford) Shoes Z41.2-1943 (2nd Edition)

} In one Volume 40¢

Replacement Parts for Civilian Radio
- Dry Electrolytic Capacitors (Home Receiver Replacement Type) C16.7-1943 20¢
- Fixed Paper-Dielectric Capacitors (Home Receiver Replacement Type) C16.6-1943 20¢
- Home Radio Replacement Parts, Simplified List C16.8-1943 20¢
- Power and Audio Transformers and Reactors (Home Receiver Replacement Type) C16.9-1943 25¢

Straight Screw Threads for High-Temperature Bolting B1.4-1942 25¢

Standards Available Since Our July Issue

Allowable Concentration of Metallic Arsenic and Arsenic Trioxide Z37.9-1943 20¢

Components for Military Radio
- Glass-Bonded Mica Radio Insulators C75.6-1943 25¢

Standard Approved and Available Since Our July Issue

Allowable Concentration of Xylene Z37.10-1943 20¢

Standards Under Way

Color Code for Lubricants for Machinery Z47
Components for Military Radio C75
- Capacitors
  - Fixed Ceramic-Dielectric Capacitors C75/381*
  - Fixed Molded Paper-Dielectric Capacitors C75/221*
  - Paper-Dielectric Capacitors
- Crystals
  - Crystals and Holders—Aircraft Radio Type
- Dynamotors
- Insulating Materials
  - Glass Radio Insulators C75/275*
  - Plastics
    - Laminated Thermosetting Plastic Materials (Sheet and Plate)
    - Molded Thermosetting Plastic Materials
    - Thermoplastic Materials (Rigid)
  - Porcelain Radio Insulators
- Resistors
  - Composition Potentiometers and Rheostats
  - Fixed Composition Resistors
  - Fixed Wire-Wound Resistors (Power Type)
  - Accurate Fixed Wire-Wound Resistors (1 Percent Maximum Tolerance)

* Printed draft is available.

Resistors—(Continued)
- High-Power Variable Wire-Wound Resistors
- Low-Power Variable Wire-Wound Resistors
- Toggle Switches
- Vibrators

Cylindrical Fits B4
Goggles and Respiratory Equipment, Standardization and Simplification of Z2
Packages for Electronic Tubes Z45
Replacement Parts for Civilian Radio C16
- Volume Controls (Home Receiver Replacement Type)

Safety in Electric and Gas Welding and Cutting Operations
Screw Threads B1
- Acme Screw Threads for Aircraft
- Truncated Whitworth Screw Threads

Sizes of Children's Garments and Patterns L11
Welding Arc Hand Shield and Helmets Z2
Women's Industrial Clothes and Safety Clothes L17

Project Withdrawn

Threading of General Purpose Nuts and Bolts B1

New Project Approved

Resistance Welding Equipment

News About ASA Projects

(Where it is indicated that draft standards are available, interested groups may obtain copies by writing to the American Standards Association)

Abrasive Wheels, Safety Code for the Use, Care and Protection of. (B7)

The revised draft was unanimously approved by the Safety Code Correlating Committee, who submitted it to the Standards Council for final action.

Electric and Gas Welding and Cutting Operations, Safety Code

The request for the initiation of this project under War Standards Procedure came from the National Electrical Manufacturers Association, the American Welding Society, the International Acetylene Association, and the Division of Labor Standards of the U. S. Department of Labor. The War Committee is being organized. It is understood that the committee will use as the basis of its work the present regulations on this subject established by the New Jersey Department of Labor and definite proposals now being prepared by the industrial proponent groups. Those interested in receiving drafts when available should write to the ASA.

Machine Tapers, Self-Holding and Steep Taper Series (B5.10)

This proposed revision of the American Standard Machine Tapers, Self-Holding Series (B5.10-1937) has been submitted to the ASA for approval. In addition to the specifications of the 1937 issue, it includes (1) detailed dimensions of two additional Morse tapers, (2) additional design dimensions of the various types of sockets and holding devices, and (3) the dimensions of the steep taper series. The proposal is being referred to the Mechanical Standards Committee for advice.

Photography (Z38)

The following proposed American Standards are out to letter ballot of the sectional committee:
- Industrial X-ray Sheet Film Z38.1.T1
- Graphic Arts Sheet Films Z38.1.T2
- Medical X-ray Sheet Films (Inch and Centimeter Sizes) Z38.1.T3
- Professional Portrait and Commercial Sheet Films (Inch Sizes) Z38.1.T4
- Professional Portrait and Commercial Sheet Films (Centimeter Sizes) Z38.1.T6
- Photographic Dry Plates (Inch Sizes) Z38.1.V1
- Photographic Dry Plates (Centimeter Sizes) Z38.1.V2

Pipe Flanges and Fittings (B16)

The sponsors for ASA project B16 have submitted to the ASA a proposed American Standard for Ferrous Plugs, Bushings, Locknuts, and Caps, with Pipe Threads. This is being referred to the Mechanical Standards Committee of the ASA for advice.

Protective Occupational Footwear (Z41)

Revisions of nearly all of the standards for men's and women's safety shoes are under consideration by the ASA War Committee. These changes have been brought about by data obtained by further research and from studies of the problem by the War Production Board.

Resistance Welding Equipment

Specifications prepared by industrial advisory committees of the War Production Board have been submitted to the ASA in order that they may be put through the War Standards Procedure. Printed copies will soon be available for circulation to interested groups for comment and criticism.

Shafting and Stock Keys (B17.1-1934)

The American Society of Mechanical Engineers, sponsor for the ASA project on Shafting, has submitted to the ASA a proposed revision of the American Standard B17.1-1934 consisting of a change from 0.005 to 0.006 in. in the tolerance on shafting with diameters from 6¼ to 8 in. (Table 1). This is being referred to the Mechanical Standards Committee of the ASA for advice.

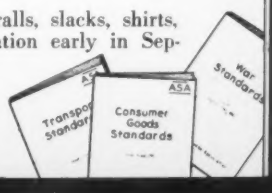
Threading of General Purpose Bolts and Nuts (B1)

The War Production Board, which last Fall asked the ASA to take up this matter under the ASA War Standards Procedure, has now asked that the project be dropped. This request is a result of representations from some large bolt and nut manufacturers and the American Institute of Bolt, Nut, and Rivet Manufacturers. The latter wrote the WPB that experience with the American Standard, Screw Thread Gages and Gaging (B1.5-1942) has shown that a Class 2 tolerance on the thread in the nut is satisfactory to the manufacturers of commercial nuts and generally applied by them.

Women's Industrial and Safety Clothing. L17

The subcommittee on safety clothing has completed draft standards on leggings, cape sleeves, and leather aprons. Printed copies are being circulated for comment and criticism. The drafting committee is now preparing a draft standard on leather gloves.

Draft standards on dresses, overalls, coveralls, slacks, shirts, skirts and aprons will be ready for circulation early in September.



New Plumbing Standards

To Keep Drinking Water Pure

Approval of the American Standards on Air Gaps and Backflow Preventers in Plumbing Systems (A40.4-1942) and (A40.6-1943) provides a nationally acceptable criterion for safe design and installation of water-supply lines.

When these standards are put into universal practice it is expected that any possibility of back-flow or back-siphonage, which might pollute the pure water supply, will be under control.

45¢ published together

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